DOCUMENT RESUME

ED 354 243 TM 019 236

AUTHOR Jenkins, Neil J.
TITLE The Scholastic Aptitude Test as a Predictor of Academic Success: A Literature Review.
PUB DATE 23 Jul 92
NOTE 11p.
PUB TYPE Information Analyses (070) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; *Academic Aptitude; *Aptitude Tests; *College Entrance Examinations; Foreign Countries; Higher Education; High Schools; Predictive Validity; Predictor Variables; Standardized Tests; *Success; Test Bias; *Test Use
IDENTIFIERS *Canada; *Scholastic Aptitude Test

ABSTRACT

The use of the Scholastic Aptitude Test (SAT) for predicting academic success has generated tremendous debate about fairness and bias. Despite discrepant observations and arguments, the need for a credible assessment formula remains strong. Although widely used by a large number of American colleges, the SAT and similar tests are not widely used for either evaluation of potential success or admissions screening by postsecondary institutions in Canada. Entrance requirements for Canadian postsecondary institutions are still frequently based on high school grade point average (GPA) and marks attained at other postsecondary institutions. This review of nine studies considers the predictive validity of the SAT for Canadian postsecondary institutions. It confirms that at best the SAT can be used as a supplement to high school GPA, and should only be used cautiously in predicting academic success. Perhaps other options that emphasize long-term achievement are worth examining. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
NEIL J. JENKINS
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED354243

The Scholastic Aptitude Test As A Predictor of Academic Success

A Literature Review

Neil J Jenkins

SIAST, Kelsey Campus

July 23, 1992

TM019236

BEST COPY AVAILABLE

Abstract

The Scholastic Aptitude Test As A Predictor of Academic Success

The use of the Scholastic Aptitude Test, for predicting academic success has generated tremendous debate about fairness and bias. Despite discrepant observations and arguments, the need for a credible assessment formula remains strong. Although widely used by a large number of American colleges, the Scholastic Aptitude Test (SAT) is not used as a predictor by post-secondary institutions in Canada, perhaps due to its limitations. At best, the SAT can be used as a supplement to high school GPA, and should only be used cautiously in predicting academic success.

The purpose of this literature review is to discuss the predictive validity of the Scholastic Aptitude Test for Canadian post-secondary technical institutions. The dearth of relevant Canadian literature has resulted in a focus on American research findings, from which implications for Canadian technical institutions are suggested.

The Scholastic Aptitude Test (SAT) is one of the most frequently used standardized tests employed by the American College Board to predict success in post-secondary institutions. The instrument measures potential for academic success beyond the secondary level by assessing verbal and mathematical reasoning skills. The test aims to assess that component of student ability not influenced by external factors (Hanford,1985). George Hanford of the American College Board believes that the SAT fulfils this function adequately. He states

> SAT scores...are indicators of developed abilities that are important in a wide range of academic programs...they are not subject to differences across schools in grading standards or in overall levels of academic ability of their students (Hanford, 1985).

Hanford also sees the SAT as a great leveller which allows demonstration of individual ability in a manner not reflective of the educational background of the student. He concludes

> In addition to promoting individual fairness, SAT scores

> also permit colleges to make better decisions about those students for whom test scores and high school grades or ranks do not provide wholly consistent information (p.327).

Although the College Board identifies limitations (Hanford, 1895), its strongest opponents maintain that the test lacks validity, and that it is biased culturally, socioeconomically, and also by gender (Natale, 1990). J.Montague also suggests that the test is neither completely objective, nor devoid of external influences. He notes that

> It is important to remember that school experiences are not the only ones reflected in the SAT results; home life also plays a key part. Students from affluent, well-educated families have opportunities the disadvantaged never enjoy, and that disparity at home shows up in SAT scores (p.31).

Thus, Montague dispels the notion that the SAT is unaffected by demographic and personality variables, a premise supported by other research (Zajonc, 1983). He also notes that the instrument is designed for the sector of the student body whose first language is English.

> Schools serve significant numbers of bilingual students whose primary language is not English. These students often take the SAT, and their scores are likely to be

> lower than those of their fellow students who are taking the test in their native language (p.32).

In an attempt to be free of confounding variables, the SAT has been developed in a manner which does not accommodate languages other than English.

This limitation is also documented by Randy Bennett, whose study measured the relative effectiveness of the SAT in assessing the scholastic potential of disabled students. He found that while students with visual and mobility impediments achieved similar SAT scores to non-disabled students, deaf and learning disabled students scored significantly lower than their non-disabled peers. This study noted that while mathematical ability was reflected accurately by the SAT, verbal skills were not. In the disabled population, Bennett showed that

> Vocabulary items are also reported to be difficult for these students....Learning disabled pupils are said to have particular difficulty with antonyms and with the logical relationships required by verbal analogies (p.44).

In contrast, disabled students did not experience difficulty with the mathematical segment of the test; their scores were comparable to non-disabled students. Further, in mathematical ability, the visually impaired students encountered difficulty. Bennett concluded that "...difficulty effects were found on several

miscellaneous multiple choice and graphics multiple choice items...." (Bennett, 1987); he concluded that the cause of the discrepancy was the modified braille form used in the SAT. If the accurate assessment requires that accommodation be made, such as individual interpretation by an examiner, then the test may lose reliability.

Other critics focus their studies on the academic usefulness of the SAT and its predictive validity. For example, a study by Chissom and Lanier (1975) found that SAT scores ranked behind high school grade point average (GPA) as the most valid predictor of freshman success. In a similar study conducted by Slack and Porter, (1980) the authors found that the SAT added only marginal predictive validity to the high school GPA. From this they concluded that "...considered together with other achievement tests and high school grades, the SAT is a third-rate predictor of college performance " (Slack & Porter, 1980).

Using existing College Board studies for his research, James Crouse (1985) investigated the predictive validity of the SAT for determining post-secondary academic success. The College Board claims that the combination of the SAT with high school grade point average (GPA) provide greater predictive validity than the high school GPA alone (Hanford, 1985). He also noted that estimates of the variation explained by the SAT are difficult to measure. The study criticizes the use of the SAT as a factor in determining

admission and success; performance standards and admissions criteria are influenced by formulae that calculate the relationship between SAT scores and freshman grades. Thus, aspiring college students must attain SAT scores equivalent to those who have already; completed their first year. Crouse (1985) argues that this process is flawed because it does not take into account the SAT scores of those who applied and were not admitted by colleges. Furthermore, his research indicates that the SAT adds only a minimal amount to the predictive validity of the high school GPA alone.

> The gain from using the SAT for a school with a 2.5 admissions standard is an increase in average freshman grades of only 0.02 on a four point scale, and an increase in years of educational attainment of 0.01 years (p.212).

The conclusion Crouse (1985) draws from his study is that the SAT is more likely to predict where a student will attend college rather than whether or not they will succeed academically once registered. The validity of the SAT as a predictive tool is diminished by this limitation.

The focus of this literature review is to examine the suitability of the SAT as a predictive assessment instrument. The research indicates, however, that the test may not consistently fulfil this role. Yet, abandoning the test while alternatives are

still in the developmental stage may be premature. Perhaps other options which emphasize long term achievement are worth examining. Unlike the SAT, many of these alternatives stress multiple factors as predictors of academic success. One alternative to the SAT is the K-12 portfolio concept implemented by the state of Vermont. In Canada, the SAT and similar tests are not widely used by post-secondary institutions for either evaluation of potential success, or for admissions screening. Entrance requirements into post-secondary institutions are still frequently based on high school GPA, and marks attained at other post-secondary institutions.

A study done by Kanoy (1989), examines the use of non-traditional predictors as the basis on which to predict success. IN brief, the study identifies two major psychological concepts, locus of control and academic self-concept. Locus of control is defined by Kanoy as the degree of control individuals believe they have over the outcome of situations. Closely allied to this concept is that of academic self-concept, the student's belief in his or her academic identity. Perhaps such alternatives should be further explored.

The use of the Scholastic Aptitude Test, for predicting academic success has generated tremendous debate about fairness and bias. Despite discrepant observations and arguments, the need for credible assessment formula remains strong. Although widely used by a large number of American colleges, the Scholastic Aptitude Test

SAT Predictor

(SAT) is not used as a predictor by post-secondary institutions in canada, perhaps due to its limitations. At best, the SAT can be used as a supplement to high school GPA, and should only be used cautiously in predicting academic success.

References

Bennett, R. (1987). SAT differential item performance for nine handicapped groups. Journal of Educational Measurement, 24, 44-65.

Chissom, B.S., & Lanier, D. (1975). Prediction of first quarter freshman GPA using SAT scores and high school grades. Education and Psychological Measurement, 35, 461-463.

Crouse, J. (1985). Does the SAT help colleges make better selection decisions ? Harvard Educational Review, 55,195-218.

Hanford, G. (1985). Further Comment. Harvard Educational Review, 55, 324-331.

Kanoy, K. et al. (1989). Predicting college success of freshman students using traditional, cognitive, and psychological measures. Journal of Research and Development in Education, 22, 65-70.

Montague, J. (1990). The scholastic aptitude test measures some important things, but relative effectiveness of schools isn't one of them. The American School Board Journal, 177, 31-33.

Natale, J. (1990). If not the SAT, what? The search is on. The American School Board Journal, 177, 31-33.

Slack, W., & Porter, D. (1980). The scholastic aptitude test: a critical appraisal. Harvard Educational Review, 50, 154-175.

Zajonc, R.B. (1986). The decline and rise of scholastic aptitude scores. American Psychologist, 41, 863-867.